State-based Observations – 72 hour history

User guide – version 3.1 – updated 12 June 2023

Observations in these files are updated from the same real-time database as the Latest Weather Observation tables on the Bureau of Meteorology web site (see Table 1). Data is sourced from Automatic Weather Stations, including some portable automatic weather stations (PAWS) and from some sites that are manually operated and update less frequently.

File Location

Files appear in the /fwo subdirectory of Registered Users' directories.

Files are also available via anonymous FTP at: ftp://ftp.bom.gov.au/anon/gen/fwo/. Please note that use of data from anonymous FTP should be in accordance with the [copyright notice](#) and [disclaimer](#).

Products

Table 1 provides a list of products included in the Observations – Australia – 72 hour history (IDB00011) bundle and links to weather observation station tables and maps for each state/territory.

Product Code	State/Territory	Weather Observation Station Table	Weather Observation Station Map
IDD60910	Northern Territory (NT)	NT Station Table	NT Station Map
IDN60910	New South Wales (NSW) and Australian Capital Territory (ACT)	NSW and ACT Station Table	NSW and ACT Station Map
IDQ60910	Queensland (QLD)	QLD Station Table	QLD Station Map
IDS60910	South Australia (SA)	SA Station Table	SA Station Map
IDT60910	Tasmania (TAS)	TAS Station Table	TAS Station Map
IDV60910	Victoria (VIC)	VIC Station Table	VIC Station Map
IDW60910	Western Australia (WA)	WA Station Table	WA Station Map

Table 1 Links to weather observation station tables and maps

File Naming Convention

Files are overwritten with each issue and file names are unchanging allowing for direct addressing. Product files conform to the following naming convention:

ID*X*60910.*NNNNN.ext* zipped as **ID*X*60910.tgz**

File-name key	
ID*X*60910	Product Code as listed in Table 1
X	represents the state/territory of origin – D for Northern Territory, N for NSW and ACT, Q for Queensland, S for South Australia, T for Tasmania, V for Victoria and W for Western Australia
NNNNN	World Meteorological Organization (WMO) number - see the site list here
ext	file-type extension (xml, axf or json)

File Update Frequency

Every half hour, at approximately x:05 and x:35.

Observation Source Types

Data shown is sourced from a number of message types. The source message from the automatic weather station (AWS) determines which meteorological elements are displayed in the product.

For wind measurements, the source message also determines how the wind value is calculated (see Table 2). The source message type for wind information is given by the attribute *wind-src*.

Message types used at each site are determined based on the following hierarchy (most preferred to least preferred):

- ***OMD***: One minute frequency messages. As far as possible, all sensors connected to an AWS are polled once per second; values are reported as per Table 2.

- ***metar***: METAR format, issued either half-hourly or hourly (on the hour or half-hour). Includes SPECI messages issued at non-standard times where conditions change significantly from the preceding message.

- ***metar_10***: METAR format, issued either half-hourly or hourly (on the hour or half-hour). Does not include SPECI messages.

- ***mdf, synop***: Sites which update only at three-hourly or less frequent intervals are sourced from SYNOP messages, which are manually generated by Bureau observers. Those with the type "Non-AWS" are usually SYNOP messages.

- ***TMD***: Ten-minute frequency messages. This message format has been superseded and is being replaced by one minute data and METAR messages.

Table 2 provides a list of the headings and their meanings.

Heading	Meaning
Date/time	Time is given in both local time (time-local) and UTC (time-utc).
air_temp	Last valid one second sample of the temperature at the specified minute.
apparent_t	Steadman Apparent Temperature. Calculated using temperature, relative humidity and wind speed.
dewpt	Dewpoint calculated from wet and dry bulb temperature (preferred), or air temperature and relative humidity.
rel_hum	Relative humidity calculated from wet and dry bulb temperature (preferred), or directly measured by a humidity sensing probe. Last valid one second sample of the specified minute (where directly measured).
delta_t	Air temperature minus wet bulb temperature. (Not included for Antarctic observations.)
wind_dir	Wind direction calculated using a trigonometric technique, given as one of 16 cardinal points. Calm conditions displayed as "CALM". • OMD: Mean over one minute. • metar: See Appendix 3. • metar_10, synop, mdf: Mean over ten minutes.
wind_dir_deg	Wind direction in degrees. Calm conditions displayed as "0". • One minute: Mean over one minute. • metar: See Appendix 3. • metar_10, synop, mdf: Mean over ten minutes.
wind_spd_kmh	Wind speed in kilometres per hour. • OMD: Mean (km/h) over one minute. • metar: See Appendix 3. • metar_10, synop, mdf: Mean (km/h) over ten minutes.
gust_kmh	Wind gust speed in kilometres per hour. • OMD: The highest three second mean wind speed (km/h) over the one-minute period. • metar, metar_10: The highest three second mean wind speed (km/h) over the ten-minute period. • synop, mdf: Not available.
wind_spd_kt	Wind speed in knots. • OMD: Mean (knots) over one minute. • metar: See Appendix 3. • metar_10, synop, mdf: Mean (knots) over ten minutes.
gust_kt	Wind gust speed in knots. • OMD: The highest three second mean wind speed (knots) over the one-minute period.

Heading	Meaning
	• metar, metar_10: The highest three second mean wind speed (knots) over the ten-minute period. • synop, mdf: Not available.
press	Atmospheric pressure sourced from either QNH or mean sea level pressure. Where both QNH and MSLP are available, the value shown is MSLP. Last valid one second sample of the specified minute.
press_msl	Mean sea level atmospheric pressure in hectopascals. Last valid one second sample of the specified minute.
press_qnh	QNH atmospheric pressure in hectopascals. Last valid one second sample of the specified minute.
press_tend	Trend in pressure since the last observation that has been corrected for diurnal variation; two peaks and troughs in pressure each day. Manual observation sites only (R rising, F falling, S steady).
rain_trace	Precipitation during the stated period, usually since 9am local time. Some amounts may be rounded to the nearest millimetre.
rain_ten	Precipitation over the ten minutes preceding the observation time (OMD, metar and metar_10 only).
rain_hour	Precipitation over the hour preceding the observation time (metar and metar_10 only).
weather	Observed weather type (see Appendix 1) where manual observations are available (synop, mdf only).
cloud	Cloud description (see Appendix 2) generated either from ceilometer data at aerodrome AWSs or from manual observations where available. • OMD: Last valid one second sample of the specified minute (automated only). • metar, metar_10: Last valid one second (automated) sample of the specified minute or manual observation at the stated time. • synop, mdf: Manual observation at the stated time.
cloud_base_m	Cloud base height above station height in metres.
cloud_oktas	Cloud cover in oktas.
vis_km	Visibility generated either from visibility meter data at aerodrome AWSs or from manual observations where available. • OMD: Last valid one second sample of the specified minute (automated only).

Heading	Meaning
	• metar, metar_10: Last valid one second (automated) sample of the specified minute or manual observation at the stated time. • synop, mdf: Manual observation at the stated time.
swell_height	Manual swell height in metres at coastal sites (synop, mdf only). '+' indicates 'greater than', '<' indicates 'less than'.
swell_period	Manual swell period in seconds at coastal sites (synop, mdf only). '+' indicates 'greater than', '<' indicates 'less than'.
swell_dir_worded	Manual observations at coastal sites (synop, mdf only). Direction the swell comes from, given as one of eight cardinal points. 'CF' indicates confused swell, 'NS' indicates no swell.

Table 2 List of headings and meanings.

Information on the elements themselves can be found here: About latest weather observations (bom.gov.au)

Contact us

For further enquiries please connect with us via webreg@bom.gov.au

Appendix 1 – Weather Types

Please be aware that these values are free text entered by an observer and may include contractions or typographical errors.

Fine

Smoke

Haze

Dust

Dust whirls

Dust storm

Mist

Fog patches

Shallow fog

Lightning

Distant/nearby virga

Distant precipitation

Thunder

Squall

Funnel cloud

Recent drizzle

Recent rain

Recent snow

Recent rain and snow

Recent precipitation

Recent shower

Recent hail

Recent fog

Recent thunderstorm

Dust storm

Severe dust storm

Drifting snow

Blowing snow

Distant fog

Fog

Drizzle

Freezing drizzle

Rain

Freezing rain

Sleet

Snow

Ice prisms

Snow grains

Starlike crystals

Ice pellets

Shower

Violent shower

Snow shower

Soft hail shower

Hail shower

Thunderstorm

Thunderstorm and hail

Heavy thunderstorm

Thunderstorm and dust

Appendix 2 – Cloud Values

0 oktas: "Clear"

1-2 oktas: "Mostly clear"

3-5 oktas: "Partly cloudy"

6-7 oktas: "Mostly cloudy"

8 oktas: "Cloudy"

9 oktas: "Fog"

Appendix 3 – METAR/SPECI Wind Assessment Period (WAP)

The length of the WAP may be any value from 2 to 10 minutes. For METAR messages the WAP will be 10 minutes except when a wind discontinuity is detected during the 10-minute period preceding the observation, in which case the WAP will be 2 minutes plus the length of time expired since the discontinuity, up to a maximum of 10 minutes.

For a wind direction or wind speed SPECI, the length of the wind assessment period will always be 2 minutes.

For all other SPECI messages, the length of the wind assessment period will be the time elapsed since the last occurrence of any assessment period reset event (i.e. a wind discontinuity, a wind direction SPECIAWS, or a wind speed SPECIAWS) during the 10-minute period preceding the observation, in which case the WAP will be 2 minutes plus the length of time expired since the last reset, up to a maximum of 10 minutes. If a reset event has not occurred, the wind assessment period will be 10 minutes.